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AN EPIDEMIOLOGICAL STUDY OF ADDICTION AND PSYCHOSOCIAL BEHAVIOUR AND RISK OF OBESITY IN URBAN POPULATION

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ABSTRACT

Objective: To study addiction and psychosocial behaviour in relation to obesity in urban population.

Method: A prospective study in an urban health training center of Department of Community Medicine, Jawaherlal Nehru Medical College, Aligarh Muslim University, Aligarh, Utter Pradesh, INDIA through predesign and pretested questionnaire base.

Results: Individuals addicted to alcohol (2%) and pan (10.7%) were found to be more obese as compared to individuals addicted to tobacco (1.3%), pan masala (2.4%) and cigarettes (2.6%).The prevalence of obesity was more in individuals having abnormal psychosocial behaviour like withdrawn (3%), self conscious (51.1%), loneliness (5%), anxiety (14%) and depression (12%).

Conclusion: The addiction of alcohol, pan and abnormal psychosocial behaviour play a role in development of obesity.

KEY WORDS: Obesity, Addiction, Psychosocial behaviours, Urban population, prevalence, Body mass index.

INTRODUCTION

Obesity is a very complex disorder in which multiple causative factors are potentially operative[1]. Any factor (eg. genetic, metabolic, psychological, social or environmental) which increase energy uptake or decreases energy expenditure can lead to positive energy balance and hence obesity. The body has excellent physiological defenses against the depletion of body energy stores, but it has weak defense against the accumulation of excess energy stores. Studies have shown that addiction to a particular substance like tobacco, alcohol, etc. and psychosocial behaviour can contribute to obesity. Some alcoholic beverages such as beer and wines are carbohydrates and they increase calories uptake[2]. Suter et al[3] point out that as an energy source, unlike other sources of energy, alcohol cannot be stored in body and appears to have absolute priority in metabolism. This takes place at expense of other metabolic pathways, including the suppression of lipid oxidation, which appears to be a critical factor in the development of positive energy balance.

Cigarettes smokers tend to have less weight as compared to non-smokers and ex-smokers. Studies have shown that ex-smokers tend to gain weight after quiting smoking[4,5,6,7].

The obese have a high incidence of body image problems and disturbances in perception and conceptual organization of certain physiological states[8]. A reduction in psychological stress and improvement in self-esteem are noted in obese when they loose weight. As a consequence of

overweight many persons experienced job discrimination, public redicule, embarrassment, withdrawn, fear or worry.[9,10,11,12]

This prospective study was aimed to determine the association of addiction and psychosocial behaviour with obesity in urban population.

Table 1: Distribution of Obesity According to Addiction

Subjects	Alcohol	Tobacco	Smoking	Pan-Masala	Pan	Drug	None
Obese (n=458)	9 (2.0)	6 (1.3)	12 (2.6)	11 (2.4)	49 (10.7)	0 (0)	371 (81.0)
Non Obese (n=3535)	27 (0.8)	184 (5.2)	177 (5.0)	169 (4.8)	254 (7.2)	0 (0)	2724 (77.0)
Chi square 1 d. f	7.08	13.8	5.37	5.62	6.84	0	3.61
P	0.01	0.001	0.05	0.02	0.01	0	0.10

Figure in bracket indicates percentage of the value above it.

MATERIAL AND METHODS

This prospective study was carried out in and around urban health training center of Department of Community Medicine, Jawaherlal Nehru Medical College, Aligarh Muslim University, Aligarh, Utter Pradesh, INDIA.

At screening, weight and height were measured, and Body Mass index (BMI) calculated as weight/ height^2 (kg/m^2) was used as an index of relative weight. Persons with BMI>30 kg/m^2 were considered obese and those with BMI between 20-24.9kg/m^2 were considered non obese. Total persons screened were 3993, out of which 458 were obese and 3535 were found non- obese. Information on lifestyle characteristics and psychosocial behavior was received by pre-designed questionnaire.

Addiction:

Alcohol/ tobacco chewing/ smoking/ pan masala/ pan/ drugs/ none

Psycho- social behaviour:

Withdrawn/self-conscious/ loneliness/ emotional deprivement/ anxiety/ depression/ none. Data were analysed using percentage and chi-square test.

RESULTS

Table 1 shows that distribution of obese and non-obese in accordance with the addiction. Obesity was more prevalent in individuals who were less addicted to tobacco (1.3%), smoking (2.6%) and pan masala (2.4%). Addiction to alcohol (2%) and pan (10.7%) was more prevalent among obese as compared to non-obese.

Table 2 shows the distribution of obese and non-obese subjects in accordance with psychosocial behaviours. The prevalence of obesity was more in individuals having abnormal psychosocial behaviours like withdrawn (3%), self conscious (51.1%), loneliness (5%), anxiety (14%) and depression (12%) as compared to non-obese.

DISCUSSION

In the present study we found that obesity was more prevalent in those consuming alcohol and pan as compared to those addicted to tobacco and smoking .The findings are similar to other studies. Garrow *et al*[4], James[6], Garrison[7] , Glanser et al[5] found that people who smoke cigarettes tend to be less in weight than non-smoker and ex-smoker tend to gain weight. Goya and Gerald[13] demonstrated a positive relation between alcohol consumption and body weight irrespective of type of drink consumed. In prospective analysis, heavy drinking was associated with increased weight gain, and this was most apparent in men who had never smoked. In individuals who already have hypertension, even moderate consumption of alcohol readily increases serum triglyceride leading to obesity[14].

Table 2: Distribution of Obesity According to Psycho- Social Behaviour

Subjects	Withdrawn	Self consious	Loneliness	Emotional deprivement	Anxiety	Depression	None
Obese (n=458)	14 (3.0)	234 (51.1)	23 (5.0)	9 (2.0)	64 (14.0)	55 (12.0)	59 (12.9)
Non Obese (n=3535)	61 (1.7)	424 (12.0)	141 (4.0)	70 (2.0)	353 (10.0)	389 (11.0)	2097 (59.3)
Chi square 1 d. f	3.19	455.0	0.98	0.0	6.72	0.38	350.83
P	0.1	0.001	0.5	N.S.	0.01	N.S.	0.001

Figure in bracket indicates percentage of the value above it.

NS = not significant

Carl[9], Hammer[10], Bruch [11], David[12] and Judith[15] also observed that obese individuals experienced more tension and anxiety over their body image, and psychosocial stress decreases when they loose weight. No difference was found between mental health score of overweight and normal weight persons, but anxiety had a definite role in those people who were trying to loose weight.

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